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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/899,107	07/06/2001	Kazuo Saito	0171-0763P	2711

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EXAMINER

ALEJANDRO, RAYMOND

ART UNIT	PAPER NUMBER
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1745

5

DATE MAILED: 02/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-5

**Office Action Summary**

Application No.

09/899,107

Applicant(s)

SAITO ET AL.

Examiner

Raymond Alejandro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 July 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All   b) ☐ Some \*   c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3                      6) ☐ Other:

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 7. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Specification*

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited.

### *Claim Objections*

3. Claim 4 is objected to because of the following informalities: the entire recitation "having gas supply grooves...and a binding agent" in lines 38-31 is redundant because claim 2 contains an earlier recitation of this limitation. Appropriate correction is required.
4. Claim 6 is objected to because of the following informalities: the term "pars" should be changed to "parts" if applicant intend to recite so. Appropriate correction is required.
5. Claim 8 is objected to because of the following informalities: the adjective "them" (two occurrences in line 4 and 5, respectively, should be changed to a recitation providing proper antecedent basis so as to have a better understanding of the claim . Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1, 4-5 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. The language a) "*longer than 50  $\mu\text{m}$  at maximum*" in claim 1 (line 8) and claim 4 (line 33) and b) "*longer than 30  $\mu\text{m}$  at maximum*" in claim 1 (line 9) and claim 4 (line 34) is unclear, thereby rendering the claim indefinite. Furthermore, the foregoing language is not defined by the claim, and the specification does not provide a standard for ascertaining the requisite degree. It is unclear as to what particular dimensional magnitude the claims intend to recite as it appears that the particle is longer than certain value but however such value is expressed as a "maximum".

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Saito et al US 2002/0028368.

The instant application is directed to a fuel cell separator wherein the disclosed inventive concept comprises the specific particle and composition feature.

The applied reference has common inventors with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

As to claims 1, 2 and 6-7:

Saito et al disclose a fuel cell separator which is molded from an electrically conductive resinous composition wherein the fuel cell separator has on one side or both sides thereof grooves through which reactant gas is supplied (claim 4); the process for producing the fuel cell separator is also disclosed (claim 5); the injection molding mixture comprises 100 parts by mass of the thermoplastic resin and 100-1000 parts by mass of the electrically conductive carbon powder (claims 2 and 5/ sections 0019). It is also disclosed that the mean particle diameter is 10-500  $\mu\text{m}$  (section 0017), preferably 30-300  $\mu\text{m}$  (section 0043). The carbon powder component can be flake graphite or massive graphite among others (section 0042).

With respect to claim 5:

It is disclosed that the resistivity is preferably 2-30  $\text{m}\Omega\cdot\text{cm}$  (section 0060); and specifically, 12.72  $\text{m}\Omega\cdot\text{cm}$ , 18.7  $\text{m}\Omega\cdot\text{cm}$ , 15.2  $\text{m}\Omega\cdot\text{cm}$ , 16.0  $\text{m}\Omega\cdot\text{cm}$ , 14.2  $\text{m}\Omega\cdot\text{cm}$ , 3.5  $\text{m}\Omega\cdot\text{cm}$ , 7.9  $\text{m}\Omega\cdot\text{cm}$  (Table 1).

Regarding claims 3 and 7:

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The density is greater than 0.6 g/ml, that is, 1.9 g/ml, 1.83 g/ml, 1.77 g/ml, 1.94 g/ml and the like (Table 1).

As to claim 1 and 4:

It is disclosed that the electrically conductive carbon powder should preferably has the following mean particle diameter and the particle size distribution (section 0044):

$D < 10 \text{ } (\mu\text{m})$	less than 1%
$10 \leq D < 700 \text{ } (\mu\text{m})$	50-99%
$D \geq 700 \text{ } (\mu\text{m})$	remainder

As to claim 8:

The polymer electrolyte fuel cell consisting of a plurality of unit cells connected together, each unit cell consisting of a pair of electrodes holding a polymer electrolyte membrane therebetween and a pair of separators holding the electrodes between them, said separator having passages molded therein through which gas is supplied and discharged (claim 6).

Thus, the claims are anticipated.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Alejandro whose telephone number is (703) 306-3326. The examiner can normally be reached on Monday-Thursday (8:30 am - 7:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on (703) 308-2383. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Raymond Alejandro  
Examiner  
Art Unit 1745

  
Patrick Ryan  
Supervisory Patent Examiner  
Technology Center 1700